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How to calculate and take them,

IN

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PLUMBERS', PAINTERS', PAPERHANGERS', GILDERS',
SMITHS', CARPENTERS', AND JOINERS' WORK.

WITH
RULES FOR ABSTRACTING,
AND
HINTS FOR PREPARING A BILL OF QUANTITIES.

BY
ALFRED CHARLES BEATON,
ARCHITECT AND SURVEYOR.

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1867.

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THE object of the Author has been to place in the hands of students and practical men—of masters and workmen—architects, builders, and their employers, no less than in those of "'prentices in the craft," young men learning their profession or calling, an easier method for taking Quantities and Measurements of different work in the Building Trade, than that usually gleaned from books, and one that has reference to the practice now generally adopted by Surveyors.

July, 1867.

CONTENTS.

	PAGE
GENERAL INSTRUCTIONS	9
BRICKWORK	12
SLATER	18
CARPENTER	19
JOINER	24
SMITH	40
MASON	43
PLASTERER	51
PLUMBER	56
GLAZIER	57
PAINTER	58
IMITATION OF WOODS	61
PAPERHANGER	62
GILDER	62
ABSTRACTING	63
HINTS FOR COLLECTION OF QUANTITIES	66

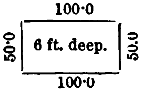
THE WORKMAN'S GUIDE
TO
QUANTITIES AND MEASUREMENTS.

IT is strongly recommended to adopt, without deviation, one course. In taking the dimensions of external work, always commence in the front, at the left hand of the building, working round to the right. In excavations, brickwork, &c., take the front and back wall from out to out the end, and other walls in the clear.

In internal dimensions, in every trade, take floor by floor, beginning at the left hand side and working round.

For all figures in the dimension book adopt the same plan, and if it happens that months after the measurement is referred to, no difficulty will arise in easily finding any given dimension.

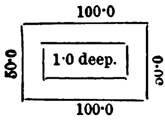
Excavation (per foot cube).—Take the dimension of front, allowing 6 inches at each end to work in, beyond the external quoin of the brickwork; then measure the back front to ascertain if the building is built at right angles; take ends with same allowances. Providing the building is at right angles, the dimensions would be



After cubing it, divide the quantity by 27, the number of cubic feet in a yard, and the excavation is given.

If wheeled above 15 yards, describe how much, the cost varying as the distance increases; also if excavated deeper than 6 feet. If carted away, say to what distance. All excavations for cesspools and drains are measured in the same way, with a small allowance to work in; describe depth, distance wheeled, carted, &c.

Trenches (cubic yard).—Digging trenches for foundations should be separate from excavating for the whole site, the former being usually filled in, levelled and rammed at bottom and sides. Suppose building to be at right angles, and the widths the same, the four walls for digging may be collected together, forming a distinct dimension, the front and back from outside to outside, and ends in clear. If the building is not at right angles, or of different widths, each length must be taken separately, beginning at front and



working round. Describe which is out to out, and which is clear; after having taken outside, proceed to digging piers, internal walls, &c.

Concrete (cubic yard.)—Measured like excavation to trenches, but the nett quantity; describe the proportion of stuff and the height thrown from; take all depths, and in cases of large areas filled in, take a super. dimension of all upper surfaces levelled.

BRICKWORK.

In London and its vicinity brickwork is reduced to the rod of 272 feet super., of a standard thickness of 1½ brick. This operation is performed as follows:—400 feet in 2 bricks is taken as 800 feet in 1 brick; 200 feet in 2½ bricks as 200 feet in 1 brick, and 200 feet in 1½ brick; 200 feet in 1¼ brick as 250 feet in 1 brick; 250 feet in 1¾ brick as 250 feet in 1 brick and 125 in 1½ brick; 200 feet in ¼ brick as 50 feet in 1 brick; 200 feet in ¾ brick as 100 feet in 1½ brick.

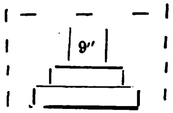
When the quantity of 1 brick thick is added up, multiply by 2 (the number of ½ bricks in 1 brick), and divide by 3 (number of ½ bricks in 1½ brick), then add the same to the column of 1½ bricks, dividing the whole by 272 to bring it into rods.

Solids, as piers, &c., to be cubed. To reduce them to standard thickness of 1½ brick, multiply the quantity by 8 (number of 1½ in a foot), and divide by 9; then divide by 272, thus bringing to rods.

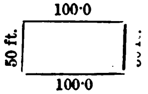
Suppose a pier to be 30 feet high and 4 feet square—

$30 \times 4 \times 4 = 480.$ $3840 \div 9 = 426.$
$480 \times 8 = 3840.$ $272^{\text{ft.}})426(1^{\text{rod}}\ 54.$

Footings are taken as they occur, by taking the thickness on the average. Ground average 2′ 3″ wide, then say 10 feet long by 3 feet—10′×3′×2′ 3″=67′ 6″ digging and carting.



Brickwork.—Commence with the footings; thus, if the erection is at right angles:—



Should this not be the case, each wall must be taken separately—the front and back walls from outside to outside, the flank walls in the clear. If the thickness of the footings can be averaged, one dimension will do; if not, each course should be taken by itself. Then take the walls immediately above the footings to the top of the joists of the ground story, describing the number of bricks thick, and so on, floor by floor, to the roof. Should the walls of upper floors be of the same thickness, it is still suggested to take them floor by floor, clearing off all additions, as breasts, trimmers, &c., with the deductions to each.

Chimney Breasts and Trimmers.—For chimney breasts take width by height on each floor; state thickness; allow for openings as they occur; measure length of trimmers by girth.

Cornices.—Take the length of all projections for cornices, fascias, strings, &c., by their several widths; say thickness of brick.

Cement.—If any brickwork is carried up in cement, take quantity and add to general brickwork; but make a separate item in bill.

Circular Work.—Measure as directed for other work, but take the girths instead of width; heights, &c., as before.

Ovens and Coppers.—Measure solid; allow for ash-holes.

Facings (per foot super.)—Take the width of the front wall, and returns by height; allow cornice and strings, if any; subtract all openings, adding reveals; also front of all gauged arches, and state nature of facing.

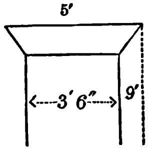
Pointing (per foot super.)—Measured as facing, or by the 100 feet.

Brick-nogging (per yard super.)—Take length by height; allow apertures (doors only); divide by 9 for yards; say how bricks are laid. All quarters and other wood given in.

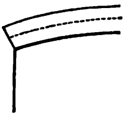
Cuttings (per foot super.)—Measure the length by width for wide splays; if rubbed bricks, specify. This part of the work requires particular attention.

Splays (per foot run).—All splays are measured by lineal measure; if bricks are circular, and rubbed, &c., mention same.

Gauged Arches.—Take lowest line between reveals; add skewback, by front of gauged work, thus:—



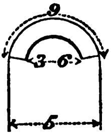
Arched Work.—Where common vaults occur, take the quantity on dotted line. Arches described as 14″ should be taken as 12″ on face. Where 9″ reveals occur to large openings, the arches should be measured solid and separately regarded. Occasions seldom occur to specify work in seconds, as invariably the work is executed in malms.



Measure herring-bone arches extra face only; for example, arches in cement, if cut.

Mention separately all frames bedded and pointed; all flues cored; and ends of any bars to grates which have been restored.

Circular Gauged Arches are measured as follows—for example: Semicircular arch to be 3′ 6″ between reveals. Take half circumference by front of arch, then half circumference at 3′ 6″ diameter by depth of reveal for soffit; subtract outer face of arch from facing.



Chimney Caps. — Specify separately; how finished; and give sketch in dimension book.

Creasing (Plaintile) is measured by lineal measure; state if single course or otherwise; mention thickness of wall, and how the work is rendered.

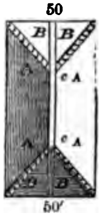
Drains are measured by foot run. Take all dimensions, and how work is rendered. *Cesspools* measured as common brickwork. *Drains* not measured through the traps. Specify ends of all pipes made good; collect number of stones and gratings.

Paving is measured by the superficial yard. Multiply length by width; if plan is irregular, take the average. Run cutting and waste where it requires it; say how laid and how rendered; also state the description of bricks used.

Deductions.—It is suggested to let the width of all openings appear first, and then the height. If this rule is adopted as the universal one, there will be but little trouble in reference. Chimney bars average 2½″ × ½″ and 2 ft. 3 in. longer than openings.

Abstract window openings in two distinct dimensions: 1. External, between reveals of windows; 2. Internal, ditto. Deduct from all brickwork any material more than 8″ high, allowing 1½″ for bedding in mortar.

Pantiling (per square 100 feet super.)—Take extreme length of eaves, by depth of same. If a hipped roof with valleys, the return B will make good the front A. If the edifice is at right angles, double the dimension for front and back; take the centre of the two hips marked *c*, by 1′ 3″ in width, and the cutting to the four hips also by 1′ 3″ in width, abstracting for shafts, &c. Specify generally how the work is performed; take the dimension of the circular tiling to ridges and hips; enumerate T-nails and hooks; if any filleting, measure lineally. In the case of plaintile eaves, collect lengths, inclusive of hip ends, by their depth; they would, collected, be 300 feet.



Plaintiling is calculated by the square of 100 feet. Measure in like manner as pantiling, but add the whole round of 300 feet by a width of 4½ for eaves. Barge or other course, by foot run.

Generally.—To every portion of the work state the quality of material used.

SLATER.

All slates are measured on the same principle, *i.e.* per square of 100 feet super.

Take the description given for measurement of tiling—the hip or valley made good by the return. Take the 300 feet by a depth being the average of the five last courses; calculate the cutting of hips or valleys by 1′ 3″ in width (as in tiling). Give description of nails used. For all hips and valleys allow 1′ 3″ wide by their length. If the building is of irregular shape, multiply length of walls by 7″ for cutting "countess" and "ladies," 10″ for "duchess," 12″ for "queens." Take all edges of curbs as eaves. To all gable walls, stacks, or any work against which slates are fitted, allow a dimension by 7″ for cutting, excepting always large skylights, which will do away with cutting.

Cisterns (per foot super.)—Take the length of the bottom by the width, and the dimensions of sides by height. Describe the workmanship. Slate cisterns are usually enumerated, and the quantity of water they hold is mentioned, or an inside super. dimension is taken; and the bolts and all fastenings are generally specified, as well as the thickness and quality of the slate.

Specify separately where sawn edges occur.

CARPENTER.

Describe the quality and colour of timber and deals.

Generally.—All timber work is measured by the foot cube; allow for all framings, dovetailings, &c., &c.; take the extreme length from out to out by scantling. Keep separate all wall-plates, lintels, and wood bricks, also framed timbers and any trussed work, as they are of different value. Calculate the cuttings and waste to hips, and any irregular lines, by lineal measure. Measure floor by floor; booking all items of one before another is commenced.

The wall-plates, wood bricks, lintels, &c., may be added up at the side of the general mass of collections, forming one dimension for each scantling. As before suggested, commence measuring at one given point throughout each floor, first taking such as wall-plates, bond wood bricks; secondly, all centering, presently described; then the joists and all partitions, with their mems. of additions and deductions; lastly, take the roof. Pole-plates to roof are always taken as framed timbers.

Note all the smith's and founder's work as the measuring is proceeded with.

Wall-plates and Wood Bricks, &c. (per cubic foot).—Add up lengths by the scantling; particularise all framing, &c.

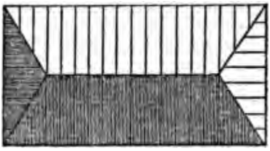
Lintels, &c.—Measure lengths, to which add what they bear on the walls, by the scantling.

Floor Joists (per foot cube), as framed timbers. —Measure length of joist, and what they bear on the wall, by scantling; deduct chimney breasts, and openings for slabs, but add trimmers, and any centering that occurs. Springing pieces are measured as presently described (deduct well-hole to staircase, and add trimmers).

Strutting is taken by foot run; mention if herring-bone.

Partitions are measured as framed timbers.—Take the lengths of the head and sill, including part in wall, by scantling; the height of the door and principal posts, inclusive of tenoning, by scantling; braces and quarters in a similar way; the length of the door heads, inclusive of framing in posts and the quarters, by their scantling. The quarters generally are merely nailed in.

Roof.—Measure the various lengths of the different portions of roof: ridge hips and valley pieces by their depths, which will give a super. dimension; describe the thickness as framed; take the entire lengths by foot run, for cutting and waste. Take the extreme length of the rafters from end



to end, by the scantling; specify them along the front as all long rafters, leaving the short ones at the hip end to make good. If the building is square, double the number of rafters for the back, and add one for the centre of each hip end. Pole-plates, collar-beams, purlins, angle or dragging ties, struts, ceiling joists, are always taken the full length, including every dovetail and all framing, by their several scantlings.

Trussed work being generally worth 20 per cent. more, should be kept separate.

The King and Queen Posts, Principal Rafters, &c., ought to be calculated by their mean lengths and particular scantlings. All rolls by the foot run, stating sizes. Subtract one shoulder in a roof, with a king post.

Wrought and Framed Partitions (per foot cube).—All prepared timbers in scantlings above 4×2 to be measured by the foot cube; the entire lengths, including framing, by the scantling. If timbers run large, take them as rough and framed, and measure the prepared face by the foot super.; rebating, beading, &c., by foot run; but give the sizes.

Circular Timbers (per foot run).—Measure as they occur, adding scarfings, laps, &c. In the price, the cutting should be allowed. Describe what sweep, whether quick, elliptic, &c. &c.

Gutters (per foot super.)—Take length by width; state thickness, the size of bearers, and how far apart; also state where any framing occurs. Calculate length, and multiply by width; describe thickness; measure drips, rolls for leads, &c., by the foot run. Specify cesspools to gutters, giving all dimensions.

Slate Battening (per square).—Measure battening by depth; specify width and thickness. Take the whole dimension of building, including hip ends for tilting fillets, and calculate by the foot run; state the width, if necessary.

Wall Battening (per square).—Collect the dimension of walls; multiply by the height; say what thickness and width, and how far separate, allowing for any openings.

Ceiling Battening (per square) is measured as wall battening. Describe, if not level face, the thickness, &c.

Angle Staves (per foot run).—Take height down to the skirting line; state if square, staff-beaded, or otherwise.

Sound Boarding (per square).—Measure length by width; say what thickness, and how filleted, inclusive of timbers

If the plan is irregular, take the average; state how edges are left, if worked for current, and give all sizes, so that, if occasion require it, the reference will be easy.

Bracketing (per foot super.)—Add up lengths of bracketing to cornices, forming the whole dimension of the room, by the girth; state thickness. Enumerate angular and other brackets.

Ribbed Centering (per foot super.)—All the centering to wide reveals should be taken by the foot super.

Centering to Vaults (per square).—Take the length by the girth; state how many ribs, and the thickness of the boards they are covered with, if shifted. Allow for removing centres and refixing.

Centering to Chimney Trimmers (per foot super.)—Measure the length by the girth. All turning pieces to be calculated by the foot run.

Centering to Rough Arches (per foot run).—Take the length between reveals, adding 1½ inch.

Centering to Gauged Arches.—In like manner, including struts; name the width of reveal; if a semi-head, calculate as before directed, but by the foot run.

JOINER.

Generally.—State the quality and colour of the deals and battens. Keep to one methodical way in taking the measurements throughout. Take floors first; the doors, jamb linings, and architraves, grounds, &c.; then the skirtings; then fronts to cupboards, and general framing; finish with angle beads, soffits, and margins.

Floors (per square).—Measure all lengths by their widths, inclusive of skirtings on each side; if plan is not at right angles, then take the average. Cutting and waste are measured by foot run, which should be calculated on all and every line where such cutting, &c., occurs. Deduct chimney breasts, and all slabs taking super. dimension. Take full lengths of glued and mitred border to slabs, and also flooring in recesses; mentioning the thickness, and if wrought and laid folding. Number all heading joints, and say if splayed, or ploughed and tongued.

Should the boards be gauged to any width, say so, and specify if batten floors.

Measure room nett, but no deduction to be made for slab. For splay, or any irregular plan, run the dimension, and allow for waste.

Enumerate scribing, notching, &c.

In the case of floors joining stone, allow for cross joint.

Plinths are measured per foot super., including mitres, tonguings, housings, &c., by the width. State the thickness; also say if double or single rebated, backed, &c. Take the lowest moulding by the foot super.; but if 5″ girth, or under, by the foot run.

Enumerate all mitres and housings to all mouldings to each plinth; also state if straight, circular, bent, or glued up in thickness.

All Thicknesses (per foot super.)—Multiply all dimensions on the face, the height by width, stating the several thicknesses from ½″ up to 4″; if under 3″ wide, then measure them by the foot run. State if rough edges, shot, wrought one or both sides, ploughed and tongued, or otherwise; ditto and beaded, rebated; ditto and beaded, dovetailed; mortice clamped, keyed, glued, blocked, backed, tongued, moulded, beaded, staff-beaded, &c.

Skirtings, &c. (per foot super.)—Take the whole lengths, adding all passings to angles; also if backed up, or where any plugging occurs. Plinths are measured in like manner, including mitres, housings, &c., by the width. State thickness; also say if single or double rebated, &c. Measure lowest moulding by foot super., but if 5″ girth or under, by the lineal foot. Enumerate all mitres and housings to all mouldings; also define the same, and if glued up in thickness.

Enumerate all ends where work is returned, also housings, mitres, beads, &c.

Pilasters are measured superficially, taking in edges if more than 11″ wide. Say if cross-tongued. Rebated and mitred angles, cross-tongued and any glued joint, to be run; also glued and blocked angle caps, and all bases and mouldings. Allow for mitres.

Grounds.—Cast up the lengths on walls; specify width and thickness, and if straight, circular, or wreathed, or otherwise; make note of any plugging.

Skirtings are always run, and the practice is to take narrow grounds with same.

Fixed Sashes, &c. (by the super. foot).—Multiply the width by the height from out to out; state what thickness, and if the bar is square or splayed, or any other more detailed bar. Measure all beads and stops by foot run. Calculate the labour to them and to any linings, describing thickness, and if wrought, mitred, beaded, or otherwise.

Sashes and frames are measured by the foot super. Take the width between the pulley pieces, adding 6″ on each side for the frame; multiply by height from sill to under side of frame, adding 6 in. for the head, and 3½ in. for the thickness of the sill. State particularly the casing, and generally describe the sill, the wood, and workmanship. Number deal or other pulley pieces, and beads, &c. Fully describe sashes as to thickness, and if the bars are square, or any fancy bar, describing them. Also state the quality of the lines, weights, and pulleys.

If circular on plan, take girth instead of width, adding 8 in., and describe the sweep. If any side lights, fully describe same. Particularise all furniture.

Sashes and frames can be measured out to out each way, and 1½ in. allowed for meeting bar, as it frequently happens that on the drawing the window opening only can be seen; if so, add 9 in. to the exact opening of width, and 8 in. to height.

Circular heads are measured square (making a small allowance), and then charged separately, measurements being taken from the springing line.

Semi-headed Sashes (by foot super.)—Take the nett quantity; take the width between the pulley pieces, adding the two 6″ for the diameter; the superficial contents are ascertained by multiplying half the circumference by half the diameter, and taking the half of the product.

Boxing Shutters (per foot super.)—Take the height between the sash-beads of head and sill by the mean width of the two front (or centre) shutters, adding the rebates. State the thickness, number of panels high, how many heights hung in, and if splayed; also say if square-moulded, bead butt, or bead flush, on one or both sides. Collect the butt hinges (by the pair), giving the size taken at the knuckle; also the strap hinges to back flaps. Enumerate shutter bars, describing them, and state the length. Enumerate all the shutter knobs, giving a proper and fair description to each set. The back flaps are taken in every respect same as the fronts.

Take all the ironmongery with the joiner's work; it is also best to attach the items to the measurements as they are taken, giving a full description of each article; also describe the quality and the material they are composed of; furniture, &c.

Soffits (per foot super.)—Take the lengths, including passings, by the width of one of the front shutters; describe the thickness of panelling, &c., and state if splayed.

Wall linings are taken by the nett surface. Allow only for an irregular plan or any waste if a semi-headed door or window lined up with plaster bead, and soffit.

Take circular rib for backings.

Run all labour housings; also all ploughed and tongued joints to angles.

Back Linings (per foot super.)—Take the height of the shutters (adding 2½", which will give the height of the back lining), by the width of one of the front shutters. State the thickness, the number of panels in height, and say if plain keyed square panels, or bead butt or bead flush, and if splayed. Allow for back linings 2½" longer than the shutters, and the extreme width, including tongues.

Window Backs (per foot super.)—Multiply the width by the height from the floor to the capping; specially describe the thickness; how many panels; if plain keyed, square moulded, bead butt, or bead flush; take the lengths of all the beaded capping by the foot run.

Elbows (per foot super.) are taken in a similar manner, with the proper description, stating if splayed. Enumerate the elbow caps, with description, and also passing and other pieces.

Boxings (per foot super.)—Take the height by the width for the two sides; describe the thickness, and if wrought, framed, rebated, and splayed; if the whole, they are denominated "perfect boxings."

Grounds (per foot super.)—Collect the lengths from outside to outside by the width; state the thickness, and if wrought, framed, beaded, mitred, &c. Should there only be a single moulding, take it by the foot run; but if an architrave, the whole girth by the super. foot. Enumerate all mitres, pateras at angles and plinths, with sizes, and a perfect description of them.

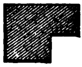
Filling in Linings (per foot super.)—Collect the lengths by the width from the back of the grounds to the plastering, stating thickness, and if wrought, tongued, rebated, beaded, &c.

Outside Shutters (per foot super.)—Measure the width, adding the rebates; if folding, by the height. State the thickness, number of panels in each fold, and if square, bead butt, or bead flush, on one or both sides. Enumerate the hinges by the pair; state the sizes and description. Specify the rings and turnbuckles. Hanging stiles may be added to the width of the shutters.

Sliding Shutters (per foot super.)—Take the width between the pulley pieces by the height, including the passings. State thickness, how many panels, and if square moulded, bead butt or bead flush, on one or both sides, and how many heights they are hung in. Give a full description of the pulley pieces, beads, lines, weights, pulleys, &c., as before; the boxings, window backs, grounds, mouldings, or architraves, filling in linings, &c., as before. Measure the flap to cover the shutters when down; describe the thickness, and if wrought and beaded. Enumerate the notches for lines, beads, &c.; and also the butt hinges to flap, stating if iron or brass. Enumerate the thumb-screws, fasteners, and flush rings, with description and quality.

Doors, &c.—Refer as to hanging (mentioned in Specification); for if with rising hinges, the head rebate must be splayed as well as the door head; if the head-lining be not out of thicker stuff than the jamb, it is necessary for it to be ploughed, tongued, and rebated.

If grounds and mouldings are of different dimensions—thus, when door edges measure 16 feet—say jambs 16′ 4″, average 3″; grounds 16′ 9″, average 10″; mouldings 17′ 6″, average 1′ 4″. Dovetailed backings for hinges, usually six to each door, by the width required—if to partition (common), say 6″; but in all cases 2½″ wider than the wall.

By "for proper door-case" is generally understood single rebate, and beaded on the rebated edge, and bead on the outside, thus—  (with single bead). If either of the beads is a staff-bead, describe the work as such; if a transom for ventilator, describe it, with the perfect door-case, and then calculate labour on rebate and beads. If a common door-case, and not beaded—as those in basement rooms—separate from proper door-case where same occurs.

Ledged Doors (per foot super.)—Specify the width, adding the rebates; if folding, by the height. State the thickness, number and width of ledges, and if wrought, ploughed and tongued, beaded, &c. If the whole, they are called perfect ledged doors. Number the cross garnetts by the pair, giving the length; the bolts, with their lengths; the thumb-latch and the lock, giving sizes, with a perfect description of them; as well as all ironmongery used thereon.

When moulded or difficult doors occur, take the doors as square, and specify moulding.

If in circular-headed wall, describe the jambs and head as circular, one or two edges, as the case may be.

Cupboard fronts and doors are measured together, allowing all extra labour, rebating, stops, as the case may be. State if jambs are back rebated for the grounds.

All folding doors are generally measured nett.

Grounds (per foot super.)—To the lengths of the jamb linings, if the grounds are 4″ or more wide, add 7″, by such width; state thickness; if framed, beaded, mitred and grooved or back rebated for plastering. Mouldings round and architraves measured as before directed in the case of windows.

Jamb Linings (per foot super.)—Collect the dimensions from the external edge of the two sides and top of the door, to which add 6″; if 1½″ thick, by the width; stating the thickness, if single or double rebated, beaded, &c.; and if with dovetailed or other blockings for hinges and lock.

Panelled Doors (per foot super.)—Take the width by the height; describe the thickness, how many panels, and if square, bead butt, bead flush, or moulded on one or both sides. If folding, add the rebate to the width, and state how many panels in each fold; if the panels are raised or feather-tongued, so describe them. Enumerate all butt hinges, per pair, giving sizes of same and lock, and mentioning furniture; if folding doors, the locks will be rebated. Enumerate the flush bolts, giving length and full description.

Door-Cases (per foot cube). — Collect the lengths; take the two sides, inclusive of the thickness of head and sill; to which add the length of head, inclusive of thickness of the two sides, by the scantling; also describing if wrought, framed, weathered, &c.

Seats and Risers, W.C.'s. (per foot super.)—

Multiply the extreme length of seat by the width, to which add the height of the riser. Specify the thickness; if wrought and tongued, and the number and size of all the bearers; measure the flap, the extreme length by the extreme width, stating thickness, if framed and beaded, with mitre-clamped ends; number the hinges, by the pair, giving size and full description; if a moulding under the projection of the seat, take it lineally. Add up the lengths of the skirting, multiply by height; describe thickness; mention all mitres, return ends, and beadings; number the hole for basin, also if same is beaded for handle.

N.B.—The quality of the materials used make no difference in the calculation.

Seat and bearers taken whole width of closet under frame. Allow for labour to round edge, to seat, and to hole cut in seat; and ditto, where beaded for handle.

It is usual in good work to take moulded nosing or labour round seat, and cross ditto to the frame.

Leave a good space in dimension book for all charges for attendance on plumber.

Partitions (per foot super.)—Calculate the length and height (the skirtings and fascia are sometimes included in the price); state the thickness and the number of panels, and if square moulded, bead butt, or bead flush, on one or both sides. Dwarf wall in like manner; state if any backings or battening, and run the deal beaded capping.

Staircases (per foot super.)—Take the length of the tread, include the housings into each string-board, by the width, to which add the height of the riser, say 11″ and 7″ = 1′ 6″. Count the number of steps, and multiply the dimension so many times, adding the additional riser, 7″ in height; the lowest step, if longer, to be taken separately. Describe the thickness of the treads and risers, and if wrought and rounded, and the number and size of the carriages; state if glued and blocked, and if with moulded nosings; if mitred to outer string; also specify if dovetailed for balusters, also if circular on one or both sides. Take the winders square, adding the projection of the nosings, 1″ each. Collect the lengths of the risers to winders (keep the fliers and winders separate). Winders having to be higher priced, quarter spaces or landings half-way up may be taken as fliers, and have added to them the top landings, as flooring, skirting, &c., with the room. If the risers are tongued at each edge, measure them—that is, the tonguing—by the foot run; if the winders are feather-tongued, so describe them. Enumerate the housings to each end of fliers, and also to each end of winders. Enumerate the cut brackets to ends of fliers, with a proper description of them; also the circular ones. Enumerate the quarter curtails, stating if glued upright; also proper curtails, with the risers veneered. Measure fascias upon linings, &c., by the foot super., describing thickness and labour.

In the measurement, take flight by flight.

Fliers.—Take one step and riser (1′ 6″ generally), and take them so many times. Where circular ends occur, extra.

Winders.—Take the quarter space to cover, and then add up the risers in their different lengths—the width to be taken from the top of one tread to the top of the next, in order to make good the part which goes under riser.

The housings are always measured in, or allow ¾″ each side, if close string; if cut string, allow 1¾″. Specify housing fliers, allowing space. Housing winders, if three to quarter space, take two ends housed to newel.

String-Boards (per foot super.)—Measure the entire length, including framings, passings, by width. Wall strings are usually taken 1′ 2″ in width. Specify the thickness, and if plain, moulded, or wreathed; take ramps to all wall strings by lineal foot, stating if plain or moulded.

If framed, rebated, and beaded strings, take the length, adding 12″ at each end; state if sunk and beaded, or sunk and moulded, or if double sunk, or mitred to risers; measure level, circular, glued upright, to the girth add 4″, by the mean width, describing thickness, and if plain sunk, sunk and moulded, and double sunk, solid wreathed, glued upright, or wreathed in thicknesses, properly backed. Take the girth with the additions, stating if plain sunk, sunk and moulded, or double sunk. If the opening of the well-hole is less than 16″, it should be so specified, the circular parts being of greater value to smaller openings.

Plancéer or capping to common strings measured lineally.

Handrails (per foot run).—Deal handrails measured by foot run, adding 2″ at each end; describe the size, and if rounded or moulded, also if sunk for balusters, ramped, swan-necked, or level, or circular, solid wreathed, or with scroll. Measure the length by a tape, adding 2½″ at each end, with perfect description. Measure the handrail on the centre of the top of the rail. Enumerate the moulded and mitred caps to handrails on the newels; also enumerate handrail screws.

Mahogany is measured in a similar manner. Where sunk for iron cores, measure the sinking by the foot run; describe it, straight or circular;

if the opening of the well-hole is less than 16″, so describe it, as the value of the wreathed rails is greater in proportion to the dimension of the openings.

Newels (per foot run).—Take the height, inclusive of tenoning; state the size; enumerate the turnings, showing if single or double. If the newels are iron, specify and measure in like manner. Collect the fixing of iron newels, and the moulds for ditto.

Rail Newels.—Say if double or single caps; number short ramps, apron linings, return ends, balusters, nosings to landings.

In measuring rail in centre on top, allow 4″ beyond springing of sweep for the circular parts.

A ramp is called swan-necked where it has to fall to join newel, and the term "wrythed" is used to describe the double ramp. It is best to give a sketch, and all figures of rail, and the number of iron balusters.

Enumerate ramps, joints, screws to rail, &c.

Number pendants, ends of rail to newel, notchings of strings to newel.

Very often landings are left to be taken with stairs; if so, care should be taken that the joists for ditto are provided for, as also the skirtings, with the return ends.

In describing strings, say if with backings.

Enumerate ramps, &c. All winders measured nett.

Balusters (per foot run.)—Take height, inclusive of tenoning; describe the size; if nailed one or both ends, or if dovetailed; if iron, take them in like manner, and bring into weight.

Enumerate the fixings of the iron balusters and the mould.

Quirked Deal Mouldings (per foot super.)—Take the lengths by the girths, and make a super. dimension; if they are under 5″ girth, take them lineally.

Enumerate all mitres and housings, and give girths; say if straight or circular.

Generally.—It is suggested that in all moulded or enriched work, whether by Joiner, Mason, or Plasterer, a detailed figured sketch be given in dimension book, with the girths and other particulars of same. In valuing the work, it is handy to refer to the sketch, more especially in the two last trades.

SMITH.

Wrought Iron (per foot super.)—Measure all chimney bars, including turnings up; also ties; straps by the width, and what thickness. For weight, calculate 5 lbs. to the foot super., ⅛″ thick, as in the case of a chimney bar, 6′ long, 3′ wide, and ½″ thick.

For Bolts, &c.—Take the super. contents of all nuts, plates, &c., describing the several thicknesses.

Screwed bolts, ties, &c., to be so described, being more expensive.

Cast Iron (per foot cube).—Find the cubical contents; calculate the weight, allowing 466 lbs. per foot cube.

Enumerate all patterns for girders, columns, &c.

Wrought-iron bolts to girders are measured as before described to wrought iron.

Rainwater Pipes and Eaves' Gutters measured by foot run (which may easily be brought into yards), giving full description, and stating quality.

State number of cistern heads and shoes; say size and description.

Enumerate stopped ends to gutters; also

brackets, size, and description. Should a length be cut, charge for it.

Measure by the foot super. all lead for bearings, &c., carefully calculating the same.

Rainwater Pipes.—Measure for the height the number of 6 feet lengths; if it is necessary to cut a length, charge accordingly. If nett dimensions are taken, add 6″ in each; allow for passings. When used for soil or wine pipes, charge for cement joints.

Enumerate heads and shoes; if any angle heads, separate them.

In the case of eaves' gutters, calculate the passings, say 5″ in 6 feet. Should a length require to be cut, provide for it, say 16″ each way from the angle, and state if including brackets.

All corbals and gratings should be mentioned, and the weight and description given.

Ties for floors and roofs are measured as so many feet of iron of the specified substance, and reduced to 42 lbs. per inch.

All staples and dog-nails are enumerated. Two staples and two dog-nails weigh 2¼ lbs., and usually one staple and two dog-nails to each tie.

Screw bolts,—as a principle, 9″ screw bolts; all above, bring into weight; all under, specify. Measure by the foot run from the inside of the nut to its end.

Measure or allow for the head separately, taking for ¾ screw bolts, 12″ long, 1½lb. for head and nut.

¾ ,, 15 ,, 1¾lb. ,,
1 ,, 12 ,, 1½lb. ,,
1 ,, 15 ,, 2¼lb. ,,
1 ,, 18 ,, 2lb. ,,
1 ,, 21 ,, 3¼lb. ,,

A plain Staircase Railing.—Run baluster; include letting into step by diameter, say 1½″=3 lbs. per foot run.

Handrail, say ¾″ half round, 1¼″ wide = 3½ lbs. per foot run. Measure handrail and baluster separately; state how many feet run; if a wreathed or straight rail, as the case may be.

Enumerate screws and riveting bars to rail.

If a wood rail, take all holes and counter sinking to screws.

A wrought newel to be weighed and put in with bars, if only common round stout bar; but if an ornamental turned newel, make separate item, with core, cap and screw through bottom step.

Outside railings should be brought into foot run, and the weight made out; state if wrought or cast; show by a sketch.

Gates taken extra, fastenings being measured in with railing. All extra lead for joints (see directions under the head of "Mason").

MASON.

All the working drawings should be produced at the time of measurement, as from them much may be gathered. All stone should be measured on one uniform principle.

Calculate the cubical contents of the stone as it comes in from the banker; take sawing by the foot super., to soffits of steps, to landings and balconies, and everywhere where the stone is not left rough or worked. State amount of labour to plain bed, and to all and every description of faces, sunk or circular. All moulded work by the foot super.

Throat grooves, dovetailed grooves, back joints, narrow splays, &c., rebating, cutting, and pinning, by the foot run.

Specify by separate items, cramps, plugs, mortices, &c.

If any stone is above 6 feet long, take the cubica contents, and describe it in scantling lengths.

If any stone is hoisted above 20 feet, take the cubical contents and describe it as "hoisting," stating height.

Measure sawing by the foot super., to back of strings, cornices, &c., where not in the rough.

Cornices, Strings, and Blocking Courses.—The cubical quantity should be ascertained that will be required to be cut out of the various stones.

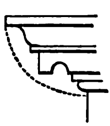
In rectangular stones laid with vertical and horizontal joints, it is not needful to provide preparatory faces.

In almost every case the beds and joints are taken as plain work.

To strings and sash stones that are backed up with brickwork, provide sawing for the back, and also for the bed when laid on brick; and if a string course with brickwork above, the bed should be doubled. If the face of it be moulded, take it as sunk; but if only plain, take a super. dimension.

Architraves and like stones follow in same manner, providing bed and joint, and state how worked. The back will be half plain work if against brick; the face as it may be.

Cornices.—The bed only to be taken to the face of the bed moulding, where it begins to overhang the top. If weathered before a blocking, take the sunk work, and then if the moulding is not a very large one, take the rest as moulded work.



The plugs and lead and joggles must be numbered. Backings are worked fair all three sides; girth as plain work; take beds and joints.

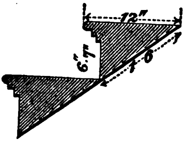
Columns.—Measure two plain sides, and say plain work, but on the above principle, calling them preparatory faces; the four sides should be taken. If fluted columns, state so.

Stone Staircase, 4 feet nett going; spandril steps; say the bottom step a solid step.

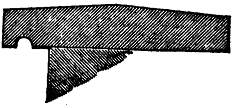
Feather-edge moulded step, 4 feet long; take ⅔ of the rise.

No mitres to mouldings.

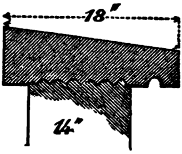
Allow for labour. Specify all mortices.



Window Sill, 4 feet 6 in. long.—Allow for labour and sawing, and for this it is suggested to refer to a current Builders' Price Book.



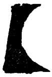
Coping, say 6 ft. long.—Specify all cramps and plugs, giving sizes and quality of metal, and mortices for ditto, a like description.



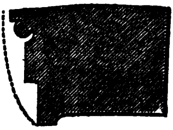
Winders.—Each step should be taken as if square; for width, take measurement on the radius line. Specify sunk, circular, or other ends, also if ends of winders pinned.

Landings.—Make mem. of fair edge next well-hole; say 4½ wall-hold for landings; cutting and pinning to walls; lead or cement joggles; stone provided before, say 1¼ ft. wide. Holes for newel and balusters. Say how ends are finished.

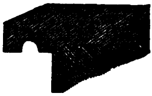
Rough or Back Staircases.—Measure run of steps, allowing 9″ for wall hole, describing either as spandril or solid, and specify soffit and winders separate.



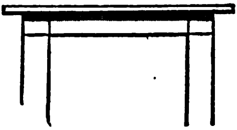
Blocking Course, say 4 feet long.—Calculate the cubical contents of stone used, then measure for sawing and other labour required; specify plugs and mortices, &c.



Moulded Cornice, say 6 feet long.—Specify labour to all faces, labour for sawing, and refer to current Builders' Price Book for value.



String, say 6 feet long.—Find the cubical contents, then allow for labour, and refer to Builders' Book as before directed.



Plain Chimney.—Measure for mantel, say 11 feet. Ditto for jambs. Ditto for edges. Ditto for soffit, and rounded corners, and chimney cramps.

Area Curbs.—Make two items, stone and labour; this is better than running the curb, and then providing for labour. Provide stone; labour to three faces; bed to underside of all stones; allow for plugs, and lead caulking holes, and all gratings.

Templates.—Labour to edges, front and side. Number all caulking holes.

Bases.—If out of landings, provide the plain edges all round; if sunk as required for columns, provide cogging holes; if in block, stone, or granite, take separate items of labour.

Cores.—In the case of cornices and iron girders measure the front edge 1½″ thicker than the stone; allow for inside edge.

Slabs and Hearths.—Take the length and width; state how worked, and notches.

Box Chimney Pieces.—Measure as before directed, including all steps; height by width; run all edges to ditto; run all yoke bar and rough lining; mantel and jambs; for the moulded works, lengths by girths; enumerate the turned ornaments and plinths, giving description and sketch of same.

Chimney Pieces are frequently priced as a whole.

Granite is always measured by the cubic foot, except the moulded work.

The following are measured by the lineal foot: all grooves, splays, rebates, and cutting and pinning. Holes, plugs, &c., to be numbered, and labour calculated for each item.

Enriched Mouldings (per foot run).—Add up the lengths, describing the moulding, girths, &c., giving sketch of each. The cubical contents of all stone previous to its being in the hands of mason, carver, or sculptor, should be taken. Specify all enriched mitre leaves to mouldings, giving the sizes, description, and a sketch. Enumerate all dentils, with sizes and intermediate space, describing whether fixed on a bevel or other line. Specify all enriched pendants, with size, description, and full sketch. Particularise all moulded balusters, and half ditto, with full description and fair sketch; specifying if turned, or worked, chamfered, &c. Specify the mortices for ditto, giving sizes and depths cut in. Enumerate all consoles, with perfect description of moulded fronts and caps, and show sketch.

Number enriched profiles, or enriched leaves, top and bottom, and show by sketch.

Enumerate all enriched capitals, specifying order, and giving sizes and sketch; also all enriched blocks, pateras, &c., with size, description, and full sketch.

Specify all mitres to plain and enriched cornices, giving the girths; also the stopped ends; particularise all mouldings, no matter how stopped.

Yorkshire and Purbeck Stone (paving per foot super.)—Multiply the length by width, giving the thickness. Should the plan be irregular, take the average, and run the cutting on any line it occurs; say if tooled or rubbed, &c.

Sinks (per foot super.)—Give description and number, and the size and thickness; how much sunk, and how many holes.

Multiply the length by the width; add what they tail into walls; give thickness; if tooled or rubbed, and how much sunk; measure pipe hole, and describe how cut in; say how many rounded corners; measure cutting, &c., per foot run.

Landings (foot super.)—Multiply lengths by widths, adding the bearings on the walls; state thickness; if faced, tooled, or rubbed on both sides; take cutting and pinning by the foot run; if above 40 feet super. in a stone, mention same.

Coping (per foot run).—Measure length, width, and thickness; state whether self-faced, tooled, or rubbed; if parallel, feather-edged, and if throated.

Steps (per foot run).—Take the length; state width and thickness; if tooled or rubbed; if solid, feather-edge, or otherwise. If more than one step, take length of back joint.

Sills (per foot run).—Measure length, width, and thickness; say if worked in quarry, or rubbed and sunk, and if throated.

The following should be specified :—

Mortices, giving size and depth; iron gratings, cramps, or any plugs.

All back joints, back rebates, or joggles to steps, joggle joints, cuttings, and any pinning, to be measured by the foot run.

PLASTERER.

Measure the ceilings, with the additions and deductions, first; then the cornices, the rendering to the walls, with additions and deductions, the lath and plaster to partitions and walls; afterwards all quirks, beads, soffits, margins, &c., &c.

Keep outside and inside work separate.

In all inferior work measure ceilings from floors, and walls from skirtings, and afterwards the blanks above doors and windows, added up; strings to stairs separate.

Walls on Brickwork are always to be measured from top of grounds to foot of cornice.

Walls on Lath.—Measure height from grounds to cornice, adding ¾ vertical height of cornice, stucco ½.

Render set (per yard super.)—Take lengths of walls, adding projections of chimney breasts; multiply by height from the top of skirting to ceiling; take all additions and deductions; state if two coats and set.

Floated (per yard super.)—Measure in like manner; take the height from the top of the floating, grounds to the underside of the cornice, adding half the height of cornice on to wall line; deduct doors and windows.

Lath lay, and set (per yard super.)—Multiply length of all ceilings and strings by the width, deducting the chimney breasts, &c.; describe if two coats and set; partitions with heights, as render set; run all quirks cut to wooden beads or others.

Ditto, floated (per yard super.)—The same way as ceilings, but take off one projection of the cornice one way from this dimension; take the length of the cornice. Partitions, width by heights, as floated, render set.

Trowelled Stucco is measured same way.

Coves (per yard super.)—Floated lath and plaster set in coves to be measured, taking any projections each way, and multiply by girth.

Soffits, Bands, Margins, &c. (per foot super.)—Multiply the lengths of each by the width, describing whether straight or circular, on brick or otherwise; if narrow, take them by the foot run, stating the width, and also if on brick or otherwise.

Quirks, Beads, Bends, and Double Quirks.—Measure these by the foot run, describing if on straight line or not.

Cornices.—Find the lengths from the dimensions of the surface of ceiling to floated work, to which add breaks of chimneys, by foot super.;

if under 8 in., by foot run. Enumerate all mitres, giving girths.

Mouldings are calculated from actual girth of cornice, faces on walls for ornamental friezes or ceilings; all ornamental soffits taken with mouldings. In a room 10 to 12 feet square all mitres are allowed in price.

Pilaster Caps and other difficult mouldings are usually taken with the general bulk of mouldings.

Mouldings in external work.—Taken as other mouldings. Allow extra for dubbing to cores and any projections. Enumerate the mitres and all moulded ends. Take all jointing with work.

Enrichments.—Add up all the lengths and take by foot run, describing all the girths, and giving sketches. State if under-cut. Enumerate all mitres, giving the girths.

Chimney Backs (per yard super.—*i.e.* feet reduced to yards).

Cement Skirtings (per foot super.)—Multiply the rounds by height; take arrises to any angles per foot run on narrow top; describe if dubbed out with plain tiles or otherwise.

Lime Work is measured by yard super. Collect the dimensions round walls and multiply by height; take all additions and deductions, but add the reveals; divide by 9 (to bring to yards), and describe how many times has been done.

Whitening, Colouring, &c.—Multiply lengths by widths of ceilings, deducting chimney breasts. State how many times has been done. Collect the round of the cornices by the foot run. If enriched, state how many members, giving sketch; if distempered, say how many tints; also specify how cornices are finished. The whitening and colouring when performed to new work can easily be taken from the totals of plastering dimensions.

Externally.—Roman Cement, Atkinson's Metallic, Blue Lias, Hamelin, Mastic, or any other:—

Plain face, coloured—Should the whole front be covered, multiply the length, including breaks and returns, by the whole height, inclusive of projections for plinths, strings, fascias, &c., but not behind large cornices; then make all the additions appearing, and deduct the doors and windows and all other apertures, but adding all reveals. Collect all arrises to angles, plinths, strings, reveals, &c. Describe if on brick or on lath, and colouring and jointing. If only plinths, strings, &c., are executed, take all lengths, and multiply by widths, on face only, and the returns, &c. as narrow margins, &c., and arrises by foot run.

Rendering to Parapets (per yard super.)—Multiply length by height, and then calculate by foot run.

Cornices (per foot super.)—Multiply the lengths by the girths, adding 1½ in. beyond the nose of the mould to the girth, the top to be taken as plain face; if the moulded cornice is under 8 in. girth, run it, describing girth; run all enrichments to mouldings, with girths, description, and neat sketch. State number of mitres and stopped ends, giving girths.

Consoles, &c. &c.—Specify all dentils, blocks, flowers, &c., giving the sizes and fair sketch; describe the moulded fronts and caps to consoles, with enriched leaves, both top and bottom, and enriched profiles; give true sketches of each, showing sizes and profile. Circular mouldings to be run and priced from a Builder's Price Book.

PLUMBER.

This work is very seldom measured except when an account is disputed.

Calculate the lead by the foot super., as cut and laid, and then bring it into weight.

Flats and Gutters.—Multiply the lengths, including all turning up, the lead round the rolls, &c., by the width it is cut and laid, including the turning up under the slating and flashings against brickwork. State quality, and weight of lead, per foot.

Cisterns and Sinks.—Take in same way, including all taps, &c.; take soldering round bottom, and to angles, by foot run—1 ft. 3 in. taking 1 lb. solder.

When lead is broader at one end than the other, the average only to be taken.

Enumerate all lead-headed nails, soldered dots, and well-holes.

Pipes.—By foot run, describing sizes and quality.

Brass Taps.—Specify, giving full description, and if with screw bosses, &c.; number the soldered joints.

All valves, cranks, service-boxes, and other items of a similar nature, should be numbered.

GLAZIER.

Crown Glass (per foot super.)—Measure from rebate to rebate. State whether best seconds or thirds. If above 3 feet super. keep separate. Take irregular panes by the average width.

If ground or circular, keep distinct.

British Plate.—It is advisable to take each separate, except where many are of same dimensions.

Embossed or Coloured ditto.—Measured from putty to putty. Take any margins by foot run, describing width.

State how many corners, and give sizes.

PAINTER.

Generally.—Measure wherever painted, allowing all returns, panels, &c. &c., giving number of coats, finished tint, and if flatted; also if in two tints. Should the mouldings be cut in, collect them by foot run; if clearcoled, specify same; if on new plastered walls, describe same.

All painting should mean and include knotting, stopping, preparing, &c. Narrow widths under 14″ and having two edges, cut in and taken by foot run.

Door Faces (per yard super.)—Take the width of the door, including the architraves and returns, adding 1½ in. for every panel, by height, from the floor to the top, inclusive of architrave and any grounds. Collect the lengths of the jamb linings, by widths, adding rebates and thickness of door; if both sides of the door are painted alike, just double the dimension.

Wainscotings, ditto.—Multiply length by height, adding 1″ for all panels, &c. in the height only.

Window Fronts.—Boxing Shutters, &c. (per foot super.)—Take the width, including the returns, dead to the wall, by height from floor to top, adding any projection that may occur; take the height of shutters by the width thereof, adding 2 ft. 6 in. to it for the edges inside of boxings, &c. Collect the whole dimensions of round of elbow, back linings, and soffit, adding 9 in. for the elbow caps, by 10 in. in width.

Calculate sash squares by the dozen; specify coats. Ditto for shutter bars.

Wainscot Sashes.—Wainscot or mahogany sashes cleaned, sized, and varnished. Enumerate the squares, also sets of moulded beads.

Sashes and Frames are numbered; stating how many coats, and if flatted.

Reveals.—Take the heights and soffit by foot run.

Cornices (per foot run.)—Collect the round; if above 14 in. girth, take them by the foot super.; if under, by foot run. Particularsie if carved or enriched; add one-third.

Stone String (per foot run.)—As stone string, say how many mouldings. Coping edge, &c.

Trunks (per foot run.)—Add up the lengths of rain-water trunks, pipes, eaves, gutters. Add 2 ft. 6 in. for cistern heads, and 18 in. for shoes; say how many brackets.

Skirtings (per foot run.)—Take the dimensions of rooms; describe if square or moulded. String-boards, hand-rails, newels, balusters, apron linings, and base mouldings, are also measured in similar way.

Sills are numbered.

Iron, or any other description of railing, measured as square work; collect length by heights; if painted all round, double the dimension. All bars, brackets, scrapers, &c., are to be numbered.

IMITATION OF WOODS.

Wainscot Oak and Mahogany (per foot super.) —Taken as before described, stating what it is, and how many coats of varnish, with quality; if the panels are cross-banded or lined, or the moulding, &c., any other imitation of wood, charge by foot run.

The same quantity of work for the under coat for graining should be added to common painting.

Imitation of Superior Woods (per foot super.)—Bird's-eye maple, satin, walnut, pollard, oak, yew, &c., by foot super., adding ground colour; if the edges are cross-grained, and the rebated portion of jamb linings. Where one face only of the door is done, take by foot run.

All imitations of marbles in like manner. Be particular in giving the number of coats of varnish. Hand polish by superficial foot.

Tarring.—By the yard super. Say how many times done.

PAPERHANGER.

Per piece.—Multiply the round of room by height, with all additions and deductions of doors, windows, &c.; divide by 9 to bring to yards, and again by 7 to bring into pieces.

Lining paper in same way; except that in satin and other expensive papers, divide by 6 instead of 7, as there is more waste in those papers.

Borders.—Calculate by dozen yards run.

Preparing Walls.—Collect whole number of pieces, and describe them as walls prepared, sized, and pieces of paper hung.

GILDER.

Black, Gold, or others.—By the lineal yard, stating girths; describe as fixed with needle or other points, &c. Number blocks or corner ornamentations, with sizes, description, and sketch.

ABSTRACTING.

All abstracts should be clear and distinct; the columns sufficiently wide to admit of a proper description to each head; and when there are several heads in the same column, they should not be too close, otherwise you are likely to get confused in making out the bill. The following rules are recommended:—

Excavator, Concrete and Bricklayer.—On the left of the abstract take 4 columns for excavation, digging, &c., to trenches; at the lower part the concrete will come in. For the bricklayer take 3 columns for 1 brick, 2 for 1½ brick, a column for cubicals, and 2 or 3 for deductions; 3 columns for extra only in cement. At the lower part of these columns all may be consolidated and brought into rods of reduced brickwork, following with 2 columns for brick-nogging, and 2 columns for paving, of which there may be several descriptions; 4 or 5 columns for superficies, as cut faces, &c., &c.; 3 or 4 for running articles, and 3 or 4 for articles enumerated separately.

Slater may be introduced at some part near the bottom, and kept distinct; cuttings added.

Carpenter.—Take 4 columns for squares, as batten work, rough boarding, &c.; 4 columns for wall-plates, wood bricks, lintels, &c., to be consolidated; 2 for framed timbers, 1 for trussed ditto, 2 for wrought and framed, 1 for oak, 2 for centering by square and super. foot; follow by 3 or 4 for thicknesses, 2 for super. dimensions, or 4 for running articles, &c.

Smith.—Keep distinct wrought and cast iron—bring into weight.

Mason.—Keep each sort of stone separate; 2 columns for cubicals, scantling lengths, hoisting, &c.; 1 for plain face, plain bed, and circular face; 1 for sunk face and circular ditto; then leave a spare column; follow by 3 for running articles; then 3 or 4 for numbers.

Plumber.—Provide 4 columns for 4, 5, 6, and 7 lb. lead; at the lower part they may be calculated and brought into weight.

Keep cisterns and sinks separate.

Joiner and Ironmonger.—These items in particular should be clear, distinct, and properly billed. Take 2 columns for cubes, door-cases, oak sills, &c.; 3 for the various floors, 3 for skirtings, 2 for sashes and frames, 3 for shutters, 2 for jamb linings, 1 for grounds, 2 for framing, wainscoting, &c.; 3 columns for ½ in., 4 for ¾ in., 5 for 1 in., 4 for 1¼ in., 5 for 1½ in., 3 for 2 in., 1 for 2½ in., and 1 for 3 in. deal; 2 for mouldings.

Plasterer.—For internal work take 3 columns for whitening, colouring, &c., for wall work, as "render set" "two coats and set;" 3 for lath work, as "lath lay," and "set lay," "two coats floated lay;" 1 for stucco on brick, 1 for cornices, &c.

For external—1 column for plain face, 2 for superficials, 1 for general mouldings.

Glazier. — Keep each quality in a separate column, with the larger sizes below each—each glass distinct.

Painter.—Give plenty of space, the same number of heads being requisite for each coat of oil and colour; also for flatted work; 3 columns for running articles.

Paperhanger.—Keep each priced paper separate, and bring into pieces on abstract.

Gilder.—Abstract according to girths.

HINTS FOR COLLECTION OF QUANTITIES.

It is suggested, in the first instance, that the drawings and specifications be carefully studied, and remarks made for future guidance or reference.

Excavator and Bricklayer.—Take the dimensions for the excavations wholly from plans and sections; then refer to the Specification, and add whatever does not appear on the drawings.

Take brickwork as above directed.

The chimney bars may be taken with the dimensions of the breasts,—refer to Specification for description.

The centering and spring pieces may be taken with arches.

The wood bricks and springing pieces may be taken with brick arches.

Take dimensions by the foot run of the making good and restorings of all stone sills, after mason, &c.

Slater.—Take from the plan of roof and section; then refer to Specification and clear all off.

In the bill provide for leaving all slating perfect at completion of the work.

Carpenter.—Take from plans and sections, referring to Specification. Take all smith's work attached to timbers. Find the quantity of boarding, or battening, to roof, with the slating, deducting eaves, cuttings, &c., from the latter; if much discrepancy, there must be an error.

Plumber.—Take everything from Specification, referring to drawings only for lengths. Be careful in allowing all turnings up under slating and against walls, round rolls, flashing, &c. (refer to the quantity of boarding to flats, &c., as a check).

Mason.—Take from Specification, referring to the drawings only for dimensions. Attend to the cube quantities, scantling lengths, &c.; also to the method pointed out for taking labour.

Joiner and Ironmonger.—Peruse Specification, referring to drawings only for dimensions. Take ironmongery from floor to floor. Provide for casing stairs, and covering handrail, to prevent any injury during the progress of the work; and for protecting masonry in like manner.

Provide for attending plumbers to sinks, cisterns, W.C., &c., stating how many of each.

Plasterer, Internally.—Look carefully to Specification, particularly as to enrichments, referring to drawing for dimensions. Whitening and colouring is taken from plastering, but appears separately.

Provide for making good round mantels after mason.

Glazier.—Can find all in Specification, referring to drawings for any size. Check quantity of glass by the sashes, allowing for wood. Provide for leaving same clean and sound.

Painter.—All taken from Specification.

All the woodwork painted may be collected from the joiner; one-seventh for edges; when both sides are painted, double dimension. Painting for plastered walls, from plasterer.

Paperhanger.—May be taken from plasterer.

Summary of trades in order. Conditions of contract to be taken from Specification, and furnished in the Memorandum Sheet.

Fees.—Parliamentary, parochial, sewer, and architect's fees to be attached at end.

At the head of each trade give fair description from Specification of quality of materials, &c.

Lastly.—Generally review the whole of the drawings and Specification, that nothing may be omitted or misrepresented.

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